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# Of *Betta splendens* and Speed Dating: an Analytical View

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## Introduction

### Natural Behavior

- Male *Betta splendens* display innate aggressive behavior to hold territory (Goldstein 1975)

### Priming

- Previous priming research with *B. splendens* indicated increased risk behavior when primed with a female (Matos et al. 2003)

### Fluoxetine Effects

- Male *B. splendens* exposed to fluoxetine displayed inhibited aggressive behavior (Dzieweczynski and Hebert 2012)
- Female courting data was collected for a manipulation check for female bias

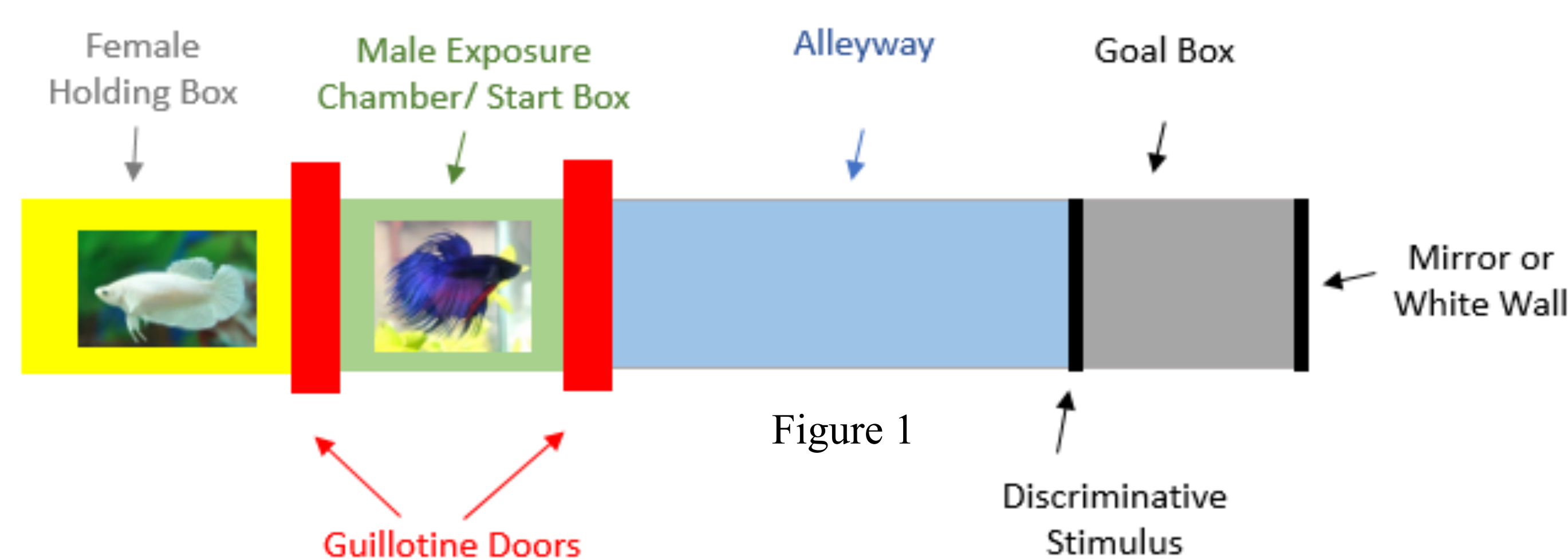
## Methods

### Participants and Materials

- 9 female *B. splendens* were used throughout the study
- Females were housed individually, all separate from male subjects

### Procedure

- T Maze setup demonstrated in Figure 1
- Females remained in the end of T-maze for entirety of trial
- Females were exposed to male subjects for 30 seconds
- After 30 seconds, a guillotine door dropped, separating male and female subjects from exposure
- While male subjects completed their trial, female subject remained in the holding box
- When male finished 10 second ITI period, subjects were re-exposed
- This continued for 10 trials
- Females cycled through the male subjects, changing male subject each day



### Female Courting Averages

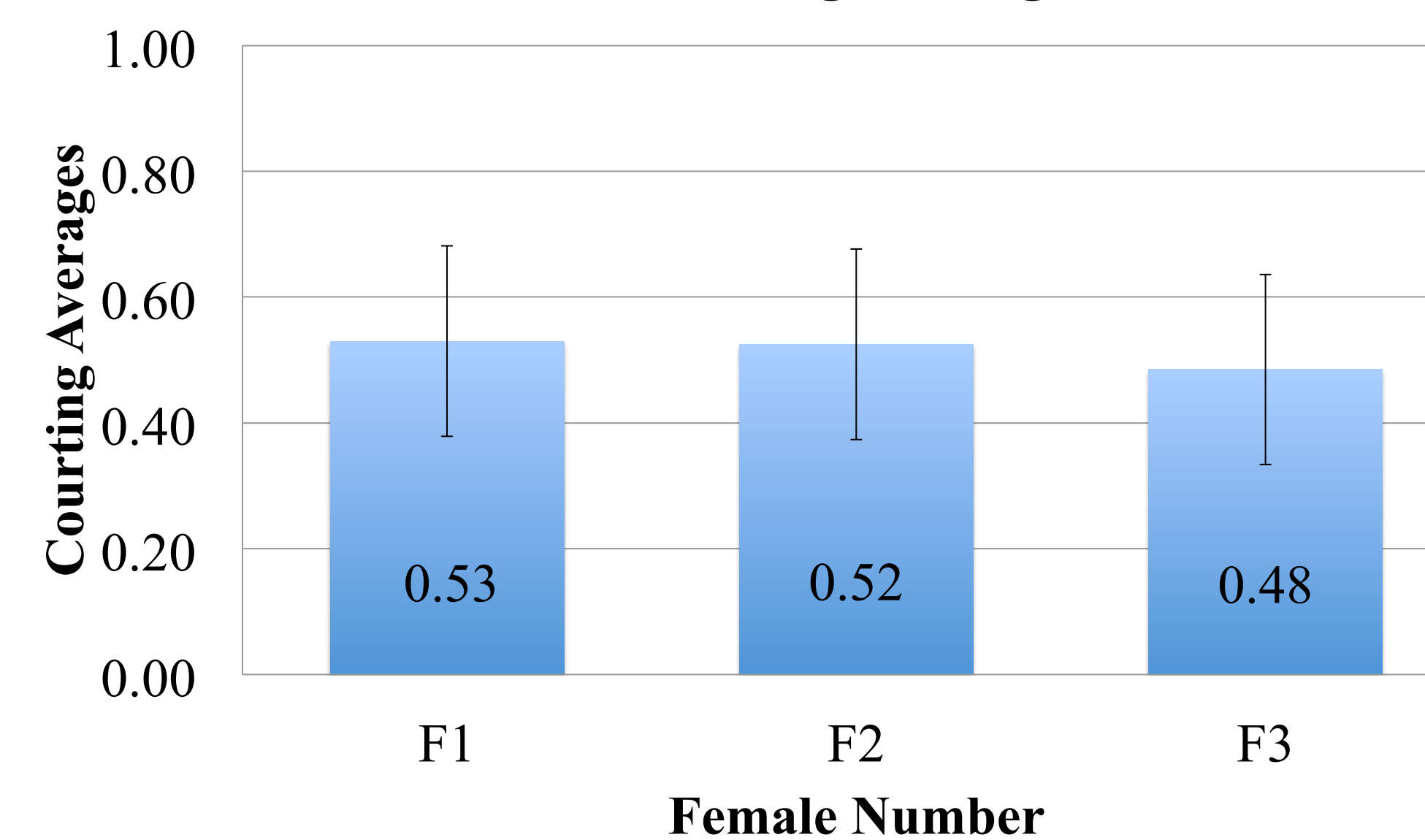


Figure 2

### Female Courting Averages

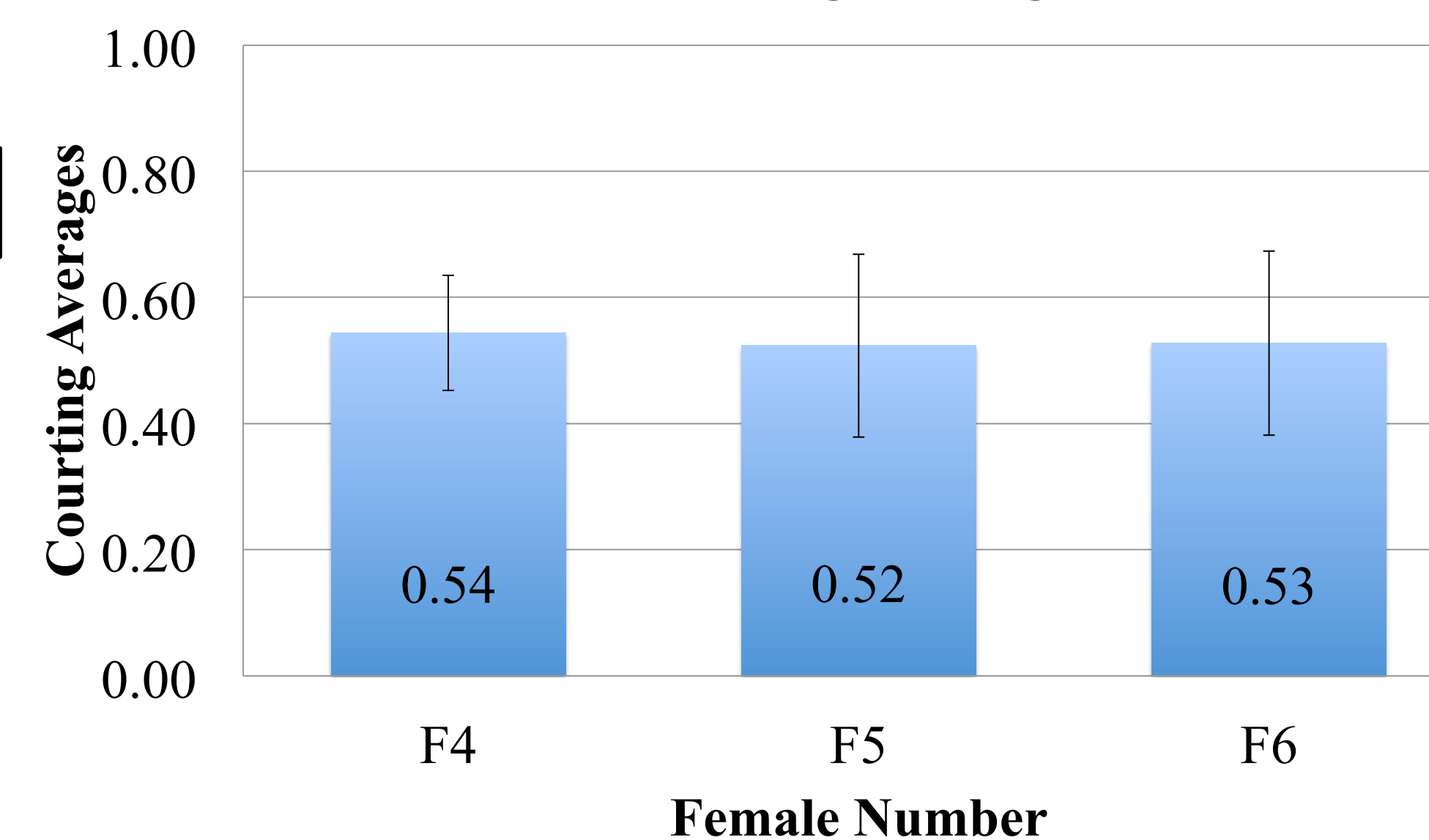


Figure 3

### Female Courting Averages

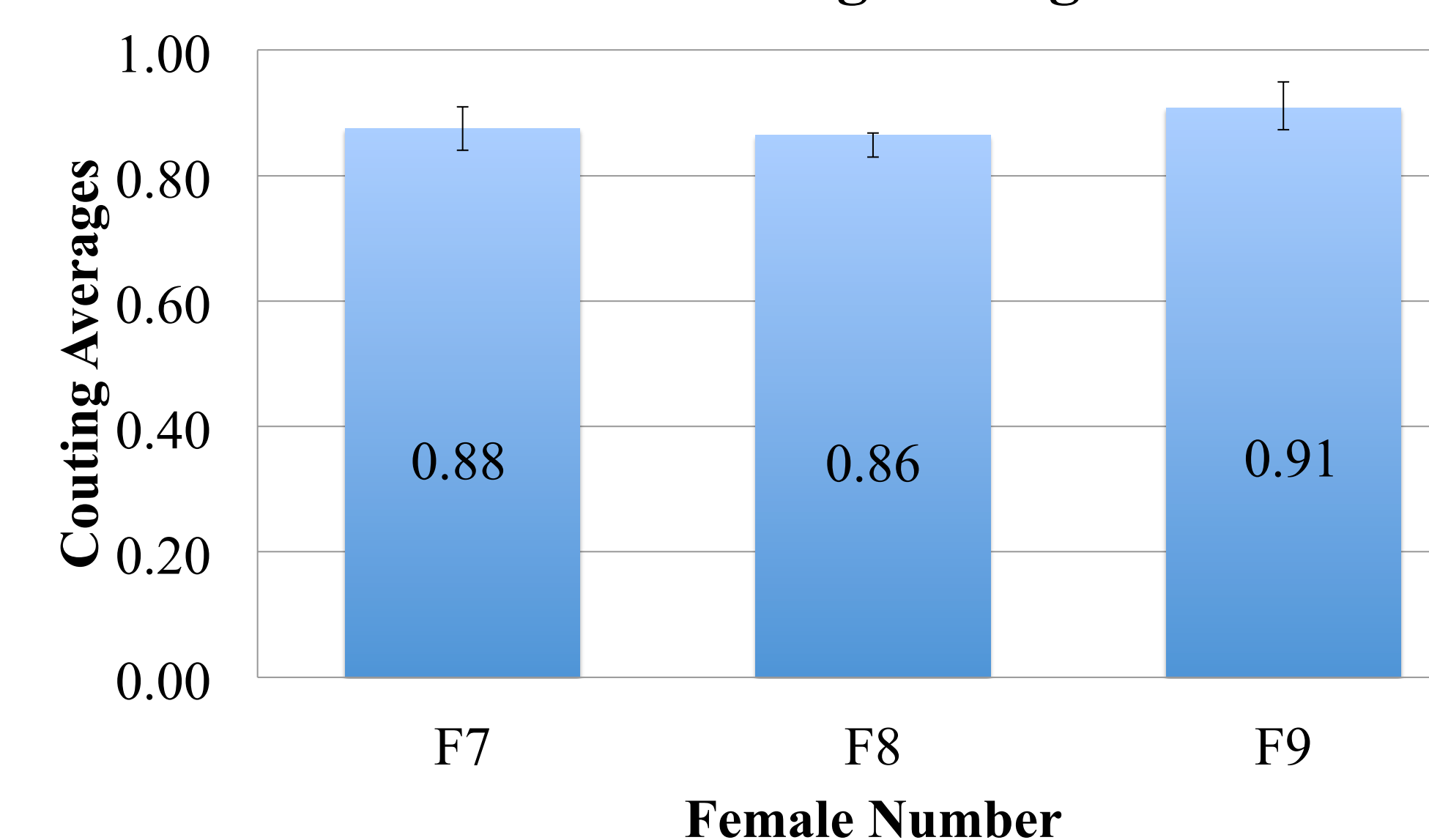


Figure 4

## Results

- Oneway repeated measure ANOVA (F1—F3)
  - $F(2,12)=1.029$ ,  $p=0.39$ , partial  $\eta^2=0.146$  (Large Effect)
  - See Figure 2
- Oneway repeated measure ANOVA (F4—F6)
  - $F(2,24)=0.258$ ,  $p=0.77$ , partial  $\eta^2=0.021$  (Small Effect)
  - See Figure 3
- Oneway repeated measure ANOVA (F7—F9)
  - $F(2,18)=1.175$ ,  $p=0.33$ , partial  $\eta^2=0.115$  (Medium/Large Effect)
  - See Figure 4

## Discussion

### Manipulation Check Findings

- No significant female bias was detected

### Other Findings

- Average courting levels varied somewhat across the groups of females with the F7-F9 group showing much higher courting averages

### Future Potential Changes

- Further research should break the courting response into individual components for a more refined examination of potential courting bias

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